



THE ATMOSPHERIC RESERVOIR

Examining the Atmosphere and Atmospheric Resource Management

Cloud Modification Project upgrades are successful

by Bruce Boe

When there are storms, it is busy. When there aren't, it isn't. The 1998 North Dakota Cloud Modification Project (NDCMP) was one of those seasons, characterized by several very active periods, and a couple of very slow periods. Nine project aircraft were based at six airports to serve Bowman, McKenzie, Mountrail, Slope, Ward, and Williams counties.

The Contractor for the project was Weather Modification, Inc. (WMI), of Fargo, who in addition to providing the seeding aircraft, pilots, and seeding equipment, also provided data acquisition computer systems for the project radars sited in Bowman and Stanley. These systems recorded the radar data, and for the first time also ported the data to the Internet, where it was immediately accessible to the public.

The project began slowly, especially during the first week and a half of June. After four or five days of active weather, another ten-day period of relative calm ensued. On June 23, the weather changed dramatically, heralding the onset of a period of thunderstorms and showers which lasted through the first week and a half of July. As high pressure

built over the region, storms were increasingly diverted to the north for next month—temperatures soared, and the harvest began in earnest. Seeding opportunities were few until August 10, when the first of a series

seeding aircraft. Though a strain on the project budget (80 percent county, 20 percent state cost-share), the improved performance translated to increased efficiency. A greater percentage of the suitable clouds

were treated than had previously been possible.

The project is presently undergoing a change in aircraft type as well. The Piper Twin Comanche, which served for over twenty years as the base-seeding mainstay, is being phased out in favor of the more modern Piper Seneca II. This year, only three of the seven cloud base seeders were Twin

Comanches. The Senecas are slightly larger, have a faster rate of climb, and being a newer model have a ready supply of parts, so maintenance is more straightforward.

Prior to next summer's project, additional testing of the cloud seeding generators and seeding solution is planned at Colorado State University. ■

Atmospheric Resource Board
North Dakota State Water Commission
900 East Boulevard, Bismarck, ND 58505
701) 328-2788
Internet: <http://www.swc.state.nd.us/ARB/>
ND Weather Modification Association
PO Box 2599, Bismarck, ND 58502
701) 223-4232



Piper Seneca II cloud base seeding aircraft. The cylindrical attachment to the wing-tip is a cloud seeding aerosol generator, in which a combustible silver-iodide solution is burned.

of almost daily storm systems moved through the western part of the state. The weather pattern remained active until the middle of the last week of August, with many of the storms occurring at night.

Improvements to the wing-tip cloud seeding generators made by the contractor prior to the start of the 1998 project resulted in improved reliability. This, coupled with the active weather, resulted in more air time being logged than ever before. By project end, over 800 flight hours had been logged by the seven cloud-base seeding aircraft, and an additional 225 hours were flown by the higher performance cloud-top